

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2014-XXXX

FOR
STEVE GIKAS
CALIFORNIA NUGGETS, INC. AND GOLDEN GATE NUT COMPANY
SAN JOAQUIN COUNTY

This monitoring and reporting program (MRP) incorporates requirements for monitoring of the process wastewater, wastewater ponds, land application areas, solid waste, and groundwater. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All wastewater samples should be representative of the volume and nature of the discharge. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Process wastewater flow monitoring shall be conducted continuously using a flow meter and shall be reported in cumulative gallons per day.

Field test instruments (such as pH and dissolved oxygen) may be used provided that:

1. The operator is trained in the proper use of the instrument;
2. The instruments are field calibrated prior to each use;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

INFLUENT FLOW MONITORING

The Discharger shall monitor wastewater flows from the processing facility to the wastewater storage pond. Influent monitoring for the process wastewater system shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gallons	Continuous	Daily ¹	Monthly

¹ Continuous monitoring requires daily meter reading or automated data collection.

WASTEWATER POND MONITORING

Samples shall be collected from an established sampling station located in an area that will provide representative samples of the water in each wastewater storage pond. Freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 foot. Monitoring of the ponds shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen ¹	mg/L	Grab	Weekly	Monthly
Freeboard	feet (± 0.1)	Measurement	Weekly	Monthly
pH	pH Units	Grab	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly

¹ Samples shall be collected at a depth of one foot, opposite the inlet.

EFFLUENT MONITORING

The Discharger shall collect effluent samples from the irrigation system pipeline that will be representative of the water applied to the LAA. Effluent monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
BOD ₅ ¹	mg/L	Grab	Weekly	Monthly
Nitrate Nitrogen	mg/L	Grab	Weekly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Weekly	Monthly
Ammonia Nitrogen	mg/L	Grab	Weekly	Monthly
Total Dissolved Solids	mg/L	Grab	Weekly	Monthly
Fixed Dissolved Solids	mg/L	Grab	Weekly	Monthly
Standard Minerals ^{2, 3}	mg/L	Grab	Monthly	Monthly

¹ 5-day biochemical oxygen demand.

² Standard Minerals shall include at least the following compounds: boron, calcium, iron, magnesium, manganese, potassium, sodium, chloride, sulfate, total alkalinity (including alkalinity series), and hardness.

³ Samples for metals shall be filtered prior to preservation using a 0.45 μ filter.

LAND APPLICATION AREA MONITORING

The Discharger shall monitor the wastewater discharged to the land application area. Monitoring shall be conducted **daily during operation** of the irrigation system and the results shall be included in the monthly monitoring report. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions shall be noted in the report. Loading rates for the land application area shall be calculated. Monitoring of the land application area shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Wastewater Flow ¹	Gallons	Continuous ¹	Daily	Monthly
Supplemental Irrigation Flow ²	Gallons	Continuous ¹	Daily	Monthly
Acreage Applied ³	Acres	Calculated	Daily	Monthly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Water Application Rate	Inches/day	Calculated	Daily	Monthly
BOD Loading Rate	lbs/acre-day	Calculated	Daily	Monthly
Total Nitrogen Loading Rate ⁴	lbs/acre-month ⁵	Calculated	Monthly	Monthly

- ¹ Continuous monitoring requires daily meter reading or automated data collection and shall define the volume of wastewater discharged to the land application areas from the wastewater storage pond.
- ² If any other sources of irrigation water are used.
- ³ Land Application Area(s) in use shall be identified by name or number and the acreage provided. If a portion of an area is used, then the acreage shall be estimated.
- ⁴ Total nitrogen applied from all sources, including fertilizers and supplemental irrigation water if used.
- ⁵ Report monthly total and cumulative annual to date.

At least **once per week** when wastewater is being applied to the land application area, the entire application area shall be inspected to identify any equipment malfunction or other circumstance that might allow irrigation runoff to leave the area and/or create ponding conditions. A log of the inspections shall be kept at the facility and be submitted with the monthly monitoring reports. If wastewater was not applied to the land application area, then the monthly monitoring reports shall so state.

SOLIDS MONITORING

The Discharger shall record and report monthly the quantity, disposal location, and method of disposal of solids disposed of during the processing season, as well as during the off-season, if applicable. If solid waste is shipped offsite, then an estimated amount and location of disposal shall be reported in the monthly report and the hauler identified.

APPLICABILITY OF GROUNDWATER LIMITATIONS

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications for approval. Once installed, all new wells shall be added to the compliance monitoring network. The following table lists all existing monitoring wells and designates the purpose of each well:

MW-1 ¹	MW-2 ²	MW-3 ²	MW-4 ²
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- ¹ Background well not used for compliance monitoring.
- ² Compliance well.

The Groundwater Limitations set forth in Section E of the WDRs shall apply to the specific compliance monitoring wells MW-2, MW-3 and MW-4.

GROUNDWATER MONITORING

Prior to sampling, depth to groundwater measurements shall be measured in each monitoring well to the nearest 0.01 feet. Groundwater elevations shall then be calculated to determine groundwater gradient and flow direction.

Low or no-purge sampling methods are acceptable, if described in an approved Sampling and Analysis Plan. Groundwater monitoring for all monitoring wells shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Depth to Groundwater	±0.01 feet	Measurement	Quarterly	Quarterly
Groundwater Elevation ¹	±0.01 feet	Calculated	Quarterly	Quarterly
Gradient	feet/feet	Calculated	Quarterly	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly	Quarterly
pH	pH units	Grab	Quarterly	Quarterly
Nitrate Nitrogen	mg/L	Grab	Quarterly	Quarterly
Ammonia Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Fixed Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Standard Minerals ^{2,3}	mg/L	Grab	Quarterly	Quarterly

¹ Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well.

² Standard Minerals shall include at least the following compounds: arsenic, boron, calcium, iron, magnesium, manganese, potassium, sodium, chloride, sulfate, total alkalinity (including alkalinity series), and hardness.

³ Samples shall be filtered prior to preservation using a 0.45µ filter.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., influent monitoring, groundwater monitoring well, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all groundwater monitoring reports shall be prepared under the direct supervision of a registered professional engineer or geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board by the **1st day of the second month** following the end of the reporting period (i.e. the January monthly report is due by 1 March). The monthly reports shall include the following:

1. Results of influent flow, wastewater storage pond, effluent, land application area, and solids monitoring;
2. Average BOD loading for each irrigation cycle completed during the month;
3. The total pounds of nitrogen (year to date, from all sources including fertilizer) applied to the land application area as calculated from the sum of monthly loadings;
4. The crop grown on the LAA, date planted, and date harvested.
5. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
6. If requested by staff, copies of laboratory analytical report(s); and
7. A calibration log verifying calibration of all hand held monitoring instruments and devices used to comply with the prescribed monitoring program.

B. Quarterly Monitoring Reports

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Regional Board by the **1st day of the second month after the quarter** (i.e. the January-March quarter is due by May 1st) each year. The Quarterly Report shall include the following:

1. Results of groundwater monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDRs, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement;
4. Summary data tables of historical and current water table elevations and analytical results;

5. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
6. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

An annual report shall be prepared as the December monthly monitoring report. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented in a monthly monitoring report, the Annual Report shall include the following:

1. The maximum monthly effluent flow to the LAA for the year, total annual effluent flow to the LAA for the year; and a comparison of these results to the flow limitations of this Order;
2. Tabular and graphical summaries of monthly total loading rates for wastewater used for irrigation (hydraulic loading to the LAA in gallons and inches), total nitrogen loading, and BOD cycle average loading;
3. Comparison of total nitrogen loading to the LAA with published crop demand values for the crops that were grown;
4. Calculation of the flow-weighted annual average FDS concentration of the wastewater;
5. An evaluation of the effectiveness of the past year's wastewater application operation in terms of odor control and groundwater protection, including consideration of application management practices (i.e.: waste constituent and hydraulic loadings, application cycles, drying times, and cropping practices), and groundwater monitoring data;
6. A digital database (Microsoft Excel) containing historic groundwater and effluent data;
7. Concentration vs. time graphs for each monitored constituent using all historic groundwater monitoring data. Each graph shall show the background groundwater concentration range and the Groundwater Limitation as horizontal lines at the applicable concentration;
8. An evaluation of the groundwater quality beneath the site and determination of Compliance with Groundwater Limitations E.1 and E.2 of the WDRs based on statistical analysis for each constituent monitored for each compliance well. Include all calculations and data input/analysis tables derived from use of statistical software as applicable;
9. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.

10. A discussion of the following:
 - a. Waste constituent reduction efforts implemented in accordance with any required workplan;
 - b. Other treatment or control measures implemented during the calendar year either voluntarily or pursuant to the WDRs, this MRP, or any other Order; and
 - c. Based on monitoring data, an evaluation of the effectiveness of the treatment or control measures implemented to date.
11. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
12. The locations for off-site disposal of oil recycling wastewater, ion exchange regeneration brine, and any other wastewater;
13. A summary of the quantity of residual solid waste generated and disposed of; and
14. Estimated flows for the next calendar year.

A transmittal letter shall accompany each self-monitoring report. The letter shall include a discussion of all violations of the WDRs or this MRP during the reporting period and actions taken or planned for correcting each violation. If the Discharger has previously submitted a report describing corrective actions taken and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. Pursuant to Section B.3 of the Standard Provisions and General Reporting Requirements, the transmittal letter shall contain a statement by the Discharger or the Discharger's authorized agent certifying under penalty of perjury that the report is true, accurate and complete to the best of the signer's knowledge.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

(Date)